

AMENDMENTS TO THE CLAIMS

Please, amend claims 1-5, 7, 8, 10, 17-20, 23-26, and 28 as indicated below. Please, cancel claim 11 and add new claims 31-33 as indicated below. All claims pending in this application are reproduced below.

1 1.(Amended) A communication apparatus for processing digital information
2 included in a transmissions received from a cordless devices, the apparatus comprising:
3 an input capture mechanism coupled to an input and configured to collect input
4 capture data associated with the digital information included in at least a
5 first transmission, the first transmission received from a first cordless
6 device configured to transmit asynchronously;
7 a microcontroller unit having an input that receives a digital communication-
8 packet derived from the transmission, the microcontroller unit for
9 processing the digital communication packet and further comprising:
10 an edge detection mechanism coupled to the input for detecting state transitions-
11 included in the digital communication packet;
12 a timer having a first value that is read in response to the edge detection-
13 mechanism detecting a first state transition, and a second value that is read
14 in response to the edge detection mechanism detecting a second state-
15 transition; and
16 a central processing unit having access to the input capture mechanism, first and-
17 second values of the timer, the central processing unit for configured to
18 decode the digital information to derive ~~determining whether a valid pulse-~~
19 ~~width has been received based on the~~ associated input capture data, and

20 configured to format the input capture data associated with the digital
21 information; and first and second values of the timer.
22 a data report engine operatively coupled to the central processing unit, the data
23 report engine configured to communicate the formatted input capture data
24 to a host system having no active driver corresponding to the first cordless
25 device.

1 ~~2.~~ (Amended) The apparatus of claim 1 32, wherein the valid pulse width
2 indicates that a valid start pattern of the digital communication packet has been received.

1 ~~3.~~ (Amended) The apparatus of claim 1 32, wherein the valid pulse width
2 indicates that a valid stop pattern of the digital communication packet has been received.

1 ~~4.~~ (Amended) The apparatus of claim 1 32, wherein the valid pulse width
2 indicates that a valid bit pattern of the digital communication packet has been received.

1 ~~5.~~ (Amended) The apparatus of claim 1, wherein the data report engine further
2 comprises comprising:

3 ~~a data report engine operatively coupled to the central processing unit, the data~~
4 ~~report engine having~~ a first data structure for declaring functionality of
5 standard keys included on a cordless keyboard, and a second data structure
6 for declaring functionality of a cordless mouse.

1 ~~6.~~ (Original) The apparatus of claim 5 wherein the second data structure is also
2 for declaring functionality of system control keys and consumer control keys included on
3 a cordless keyboard.

1 ~~7.~~ (Amended) The apparatus of claim 1, wherein the data report engine is further
2 configured to, comprising: a data report engine operatively coupled to the central
3 processing unit, the data report engine for, in response to receiving decoded and
4 formatted data from the central processing unit, generating a standard data report that can
5 be transmitted communicated to, and understood by, a the host system having no active
6 driver corresponding to the first cordless device.

1 ~~8.~~ (Amended) The apparatus of claim 31 ~~4,~~ wherein the data report engine is
2 further configured to, comprising: a data report engine operatively coupled to the central
3 processing unit, the data report engine for, responsive to a status data reporting being
4 enabled, generating a standard data report that indicates to a the host system that a status
5 data report is available from one of the first or the second cordless device.

1 ~~9.~~ (Original) The apparatus of claim 8, wherein the status data report indicates at
2 least one of an identity of the cordless device, a battery status of the cordless device, a
3 profile of the cordless device, a profile code of the cordless device.

1 ~~10.~~ (Amended) The apparatus of claim 1 further comprising:
2 a second input capture mechanism coupled to a second input and configured to
3 collect input capture data associated with the digital information included
4 in a second transmission, the second transmission received from a second
5 cordless device, wherein the central processing microcontroller unit can
6 simultaneously decode and format capture data associated with digital
7 information process digital communication packets from a number of
8 different communication links, each communication link associated with a

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9 different cordless device, and a different ~~microcontroller~~ input capture
10 mechanism, ~~a different edge detection mechanism and a different timer.~~

1 11. (Cancel)

1 12. (Original) A method for processing a digital communication packet derived
2 from a transmission received from a cordless device, the method comprising:
3 detecting a first state transition included in the digital communication packet;
4 assigning a first time to the first state transition;
5 detecting a second state transition included in the digital communication packet;
6 assigning a second time to the second state transition; and
7 determining whether a valid pulse width has been received based on the first and
8 second times.

1 13. (Original) The method of claim 12 wherein the valid pulse width indicates that
2 a valid start pattern of the digital communication packet has been received.

1 14. (Original) The method of claim 12 wherein the valid pulse width indicates that
2 a valid stop pattern of the digital communication packet has been received.

1 15. (Original) The method of claim 12 wherein the valid pulse width indicates that
2 a valid bit pattern of the digital communication packet has been received.

1 16. (Original) The method of claim 12 further comprising:
2 responsive to determining that a number of valid pulses have been received,
3 decoding and formatting data included in the digital communication
4 packet;

5 providing the decoded and formatted data to a data report engine for transmission
6 to a host system having no active driver corresponding to the cordless
7 device.

1 ~~17.~~ (Amended) The method of claim ~~12~~ 33 further comprising:
2 declaring functionality of standard keys included on a cordless keyboard so that a
3 data report responsive to standard key activity will be understood by a the
4 host system receiving the data report.

1 ~~18.~~ (Amended) The method of claim ~~12~~ 33 further comprising:
2 declaring functionality of a mouse so that a data report responsive to mouse
3 activity will be understood by a the host system receiving the data report.

AS
1 ~~19.~~ (Amended) The method of claim ~~12~~ 33 further comprising:
2 in response to receiving decoded and formatted data, generating a standard data
3 report that can be transmitted to, and understood by, a the host system
4 ~~having no active driver corresponding to the cordless device.~~

1 ~~20.~~ (Amended) The method of claim ~~12~~ 33 further comprising:
2 responsive to status data reporting being enabled, generating a standard data
3 report that indicates to a the host system that a status data report is
4 available from at least one of the first or the second cordless device.

1 ~~21.~~ (Original) The method of claim 20, wherein the status data report indicates at
2 least one of an identity of the cordless device, a battery status of the cordless device, a

3 profile of the cordless device, a profile code of the cordless device, a status of the
4 cordless device, and a status of the apparatus.

1 ~~22.~~ (Original) The method of claim 12, wherein digital communication packets
2 from a number of different communication links, each communication link associated
3 with a different cordless device, are processed simultaneously.

1 ~~23.~~ (Amended) A method for processing digital information included in a
2 transmissions from a cordless devices, the method comprising:
3 collecting input capture data ~~included in~~ associated with the digital information
4 included in at least a first transmission, the first transmission received
5 from a first cordless device configured to transmit asynchronously;
6 decoding the digital information ~~based on~~ to derive the associated input capture
7 data;
8 formatting the input capture data ~~included in~~ associated with the digital
9 information; and
10 communicating the formatted input capture data to a host system having no active
11 driver corresponding to the first cordless device.

1 ~~24.~~ (Amended) A method for communicating status information from a cordless
2 device to a corresponding driver running on a host system, the method comprising:
3 receiving a standard data report that indicates that status reporting is enabled and
4 status data is available to be collected for the cordless device; and

5 retrieving asynchronously the status data, the status data including at least one of
6 an identity of the cordless device, a battery status of the cordless device, a
7 profile of the cordless device, and a profile code of the cordless device.

1 ~~25~~ (Amended) A method for processing digital information included in an
2 asynchronous transmission from a composite cordless device, the method comprising:
3 collecting input capture data included in the digital information;
4 determining whether data included in the digital information is a first data type or
5 a second data type based on the input capture data;
6 communicating the first type of data to its correct destination included in a host
7 system having no active driver corresponding to the composite cordless
8 device; and
9 communicating the second type of data to its correct destination included in a host
10 system having no active driver corresponding to the composite cordless
11 device.

1 26. (Amended) A communication apparatus for processing a transmission
2 received from at least one asynchronously transmitting a cordless device, the apparatus
3 comprising:
4 a microcontroller unit having an input that receives a digital communication
5 packet derived from the transmission, the microcontroller unit for
6 processing the digital communication packet and further comprising:
7 an edge detection mechanism coupled to the input for detecting state transitions
8 included in the digital communication packet;

9 a timer having a first value that is read in response to the edge detection
10 mechanism detecting a first state transition, and a second value that is read
11 in response to the edge detection mechanism detecting a second state
12 transition;
13 a central processing unit having access to the first and second values of the timer,
14 the central processing unit for determining whether a valid pulse width has
15 been received based on the first and second values of the timer; and
16 a data report engine operatively coupled to the central processing unit, the data
17 report engine for, in response to receiving decoded and formatted data
18 from the central processing unit, generating a standard data report that can
19 be transmitted to, and understood by, a host system having no active driver
20 corresponding to the cordless device.

1 27. (Original) A computer program product, stored on a computer readable
2 medium, for processing a digital communication packet derived from a transmission
3 received from a cordless device, wherein in response to the computer program product
4 being executed by a processor, the processor performs the steps of:
5 detecting a first state transition included in the digital communication packet;
6 assigning a first time to the first state transition;
7 detecting a second state transition included in the digital communication packet;
8 assigning a second time to the second state transition; and
9 determining whether a valid pulse width has been received based on the first and
10 second times.

1 28. (Amended) A computer program product, stored on a computer readable
2 medium, for processing digital information included in a transmission from a cordless
3 device, wherein in response to the computer program product being executed by a
4 processor, the processor performs the steps of:
5 collecting input capture data ~~included in~~ associated with the digital information
6 included in at least a first transmission, the first transmission received
7 from a first cordless device configured to transmit asynchronously;
8 decoding the digital information ~~based on~~ to derive the associated input capture
9 data;
10 formatting the input capture data ~~included in~~ associated with the digital
11 information; and
12 communicating the formatted input capture data to a host system having no active
13 driver corresponding to the first cordless device.

1 29. (Original) A computer program product, stored on a computer readable
2 medium, for communicating status information from a cordless device to a corresponding
3 driver running on a host system, wherein in response to the computer program product
4 being executed by a processor, the processor performs the steps of:
5 receiving a standard data report that indicates that status reporting is enabled and
6 status data is available to be collected for the cordless device; and
7 retrieving the status data, the status data including at least one of an identity of the
8 cordless device, a battery status of the cordless device, a profile of the
9 cordless device, and a profile code of the cordless device.

1 ~~30.~~ (Original) A computer program product, stored on a computer readable
2 medium, for processing digital information included in a transmission from a composite
3 cordless device, wherein in response to the computer program product being executed by
4 a processor, the processor performs the steps of:
5 collecting input capture data included in the digital information;
6 determining whether data included in the digital information is a first data type or
7 a second data type based on the input capture data;
8 communicating the first type of data to its correct destination included in a host
9 system having no active driver corresponding to the composite cordless
10 device; and
11 communicating the second type of data to its correct destination included in a host
12 system having no active driver corresponding to the composite cordless
13 device.

1 ~~31.~~ (New) The apparatus of claim 1, wherein the input capture mechanism is
2 further configured to collect input capture data associated with the digital information
3 included in a second transmission, the second transmission received from a second
4 cordless device configured to transmit synchronously in response to a polling signal from
5 the host.

1 ~~32.~~ (New) The apparatus of claim 1, wherein the digital information includes
2 digital communication packets and wherein the input capture mechanism further
3 comprises:

4 an edge detection mechanism coupled to the input for detecting state transitions
5 included in the digital communication packets; and
6 a timer having a first value that is read in response to the edge detection
7 mechanism detecting a first state transition, and a second value that is read
8 in response to the edge detection mechanism detecting a second state
9 transition;
10 wherein the central processing unit is configured to have access to the first and second
11 values of the timer for determining whether a valid pulse-width has been received.

1 ~~33.~~ (New) The method of claim 23, further comprising:
2 collecting input capture data associated with the digital information included in a
3 second transmission, the second transmission received from a second
4 cordless device configured to transmit synchronously in response to a
5 polling signal from the host; and
6 communicating the formatted input capture data to the host system, the host
7 system further having no active driver corresponding to the second
8 cordless device.
